FLAME ATOMIC ABSORPTION METALS (Nitrous Oxide/Acetylene Flame)
SM 3111 D – 1999 (2011)

Facility Name:_____VELAP ID_____

Assessor Name:_____Analyst Name:_____Inspection Date_____

Records Examined: SOP Number/ Revision/ Date _____ Analyst:_____

Sample ID: _____ Date of Sample Preparation:_____ Date of Analysis:_____

Relevant Aspect of Standards	Reference	Y	N	N/A	Comments
1) If samples require digestion, are standards and method blanks also subjected to digestion? *(Recommend)*	SM3111.A.5				
2) Does the calibration curve include at least three concentrations of standard metal solutions?	SM3111D.4.c				
3) Are standards prepared by appropriate dilution of stock metal solutions with water containing 1.5 mL conc. HNO_3/L?	SM3111D.3.k				
4) Is an additional standard (CCV) analyzed after every batch of 10 or fewer samples? (Recommended concentrations and criteria are in Table 3111:III.)	SM3111.A.7				
5) Is a matrix spike performed every 10 samples or each batch with an acceptable recovery of 85-115%?	SM3111.A.7				
6) Are hollow cathode lamps or electrode-less discharge (EDL) lamps used?	SM3111A.6.d				
7) Are fuel supplies are maintained at pressures slightly higher than controlled operating pressure of the instrument by suitable valves?	SM3111A.6.e				
8) Fuel & oxidant: [ ] Commercial grade acetylene, replaced when pressure has fallen to 689 kPa (100psi) acetylene; [ ] Acetylene cylinders are changed before pressure drops below 100 psi; [ ] NO copper or brass regulators, tubing, or fittings with >65% copper are used with acetylene; [ ] Nitrous oxide supply is equipped with a non-freezable regulator, or a heating coil is wrapped around an ordinary regulator to prevent flashback at the burner, or the instrument has automatic gas control system.	SM3111D.3.a SM3111D.3.b SM3111D.3.h.				

Notes/Comments

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Relevant Aspect of Standards	**Reference**	**Y**	**N**	**N/A**	**Comments**
Method Specific Requirements:					
9) Are samples digested for total metal analysis?	SM3111D.4.a				
10) Are samples preserved to pH <2 with conc. nitric acid?	CFR 141.23 (k)(2), CFR 136.3 Table 1I				
NOTE: For drinking water, "Acidification of nitrate or metals samples may be with a concentrated acid or a dilute (50% by volume) solution of the applicable concentrated acid. Acidification of samples for metals analysis is encouraged and allowed at the laboratory rather than at the time of sampling provided the shipping time and other instructions in Section 8.3 of EPA Methods 200.7 or 200.8 or 200.9 are followed" [40 CFR 141.23(k)(2) Footnote 1].					
11) For drinking water samples, if samples are preserved by the laboratory, is pH checked/recorded 16 hours after preservation (if preserved in the lab) per EPA 200.7, EPA 200.8, and EPA 200.9?	40 CFR 121.23(k)(2) Footnote 1				
12) When determining Al, Ba, or Ti, are 2 mL of KCl solution mixed into 100 mL sample and standards before aspiration?	SM3111D.4.a				
13) When determining Mo or V, are 2 mL of $Al(NO_3)_3$ x 9 H_20 into 100 mL sample and standards before aspiration?	SM3111D.4.a				
14) Is the aspiration rate adjusted to between 3 and 5 mL/minute?	SM3111D.4.b				
15) Is the atomizer rinsed by aspirating water containing 1.5 mL conc. HNO_3/L between samples?	SM3111D.4.d				
Notes/Comments					